

convey to one skilled in the art that the inventors had possession of the claimed invention. The Examiner alleges that the specification does not provide support for the brake disks, end plate and pressure plate each comprising of disks with wear faces having three different wear portions. Applicants respectfully submit that such disclosure can be found on page 6 of the specification. In particular, Applicants state: "[t]he rotors, stators, end plate and pressure plate are of three different sizes..." Further mention of the thickness of the end plate and pressure plate can be found on page 12, lines 4-5, as well as page 13, lines 26-28, as examples. Therefore, Applicants submit that they were in possession of the claimed invention and the rejection is improper. Withdrawal of the rejection is respectfully requested. Furthermore, the Examiner incorrectly states that the claim language reads as if the end plate, for example is made up of more than one disk and as if the wear faces have three different wear portions. Applicants respectfully disagree. The language of the claims clearly states that the end plate and pressure plate are made of disks respectively which have a wear face which can have one of three different portions. Therefore, the Applicants submit that the Examiner is incorrect and request withdrawal of the rejection.

not clear as available

Claims 1-5, 11, and 13-16 have been once again rejected under 35 USC §103(a) as being unpatentable over Canadian Patent CA-2004091 in view of Bok '895 et al. Applicants respectfully disagree. First, it is not evident that CA-2004091 actually shows disks (including the end plate and pressure plate) of three thicknesses due to three wear portions, where the second thickness disks are two thirds of the thickness of the first disks and the third thickness disks are one third of the thickness of the first disks. As is evident from the description of the stators on pp. 4-5 of the translation, CA-2004091 does not show explicitly or implicitly, any disk with a three wear portion on a single wear face. Furthermore, CA-2004091 does not provide replacing the fully worn disks with a disk of a first, second or third thickness as claimed by Applicants. Rather, CA-2004091 requires that the worn disk is replaced by new disks having an initial thickness identical to that of the initial disks in the corresponding positions so that the initial arrangement is reproduced. (see page 6). In addition, there is no description of having a brake assembly where there are three thicknesses of rotors in the assembly itself. Consequently, CA-2004091 fails to disclose Applicants' invention and

disk
1st thickness
2nd thickness
3rd thickness
worn disk

claimed invention which clearly sets forth that the end plate, pressure plate, rotors and stators are made of disks which are of three different thicknesses.

The addition of Bok does not remedy the deficiencies of CA-2004091. Bok does not teach the use of an end plate and pressure plate having three different thicknesses. As described in greater detail in Bok, the disks used as end plate and pressure plate can only be used as such and not in the stack between the end plate and pressure plate. Therefore, after a service run, if the end plate and the pressure plate are fully worn, they must be replaced with another end plate or pressure plate; they cannot be replaced with a disk from the brake stack. Consequently, the combination of CA-2004091 with Bok would not render obvious applicants claimed invention where the pressure plate, end plate, stators and rotors are of three different thicknesses. Bok '895 does not teach use of any heat sink stack containing disks of three different wear portion thickness in a given heat sink assembly. Bok '895 only teaches the presence of two different wear portion thicknesses.

Applicants do not dispute that a single reference can be used as a base reference in an obviousness rejection. However, there must be some motivation to do so. The Examiner has failed to provide any motivation in the references themselves. If the Examiner is providing the motivation from some of her own knowledge, then the Applicants submit that the Examiner needs to present an affidavit with these facts. Otherwise, the Examiner has not presented a prima facie case of obviousness. The Examiner is using pure and simple hindsight as opposed to any articulated motivation to arrive at the conclusion.

Furthermore, there is no support to arrive at the conclusion that it would have been obvious to one of ordinary skill in the art to have modified the disk stack of CA-2004091 as taught by the disks of a first thickness of CA-2004091. A reference itself cannot be used as a base reference as well as the modifying reference in an obviousness rejection. Examiner has not provided any case law to support for such a modification. It is not a matter of simple experimentation to make disks with more than one available wear portion or to have the end plate and pressure plate be made of disks.

CA-2004091 specifically states that the invention provides for a brake with multiple carbon disks in which each series of carbon disks comprises at least one first group of disks close to the maneuvering device having a first thickness and at least one second group of

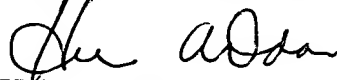
disks far from the maneuvering device having a second thickness less than the first thickness. CA-2004091 further states that the disks used in the first group at the time of the first mounting can thus be used in the second group at the time of the subsequent mounting. This is further reaffirmed on page 5 of CA-2004091 in which it is stated, "[u]nder these circumstances disks S4, S5, R3 and R4 which have arrived at the minimum thickness, are eliminated, and *the other disks are moved sideways* toward the retaining plate 4." (emphasis supplied). This clearly is not Applicants claimed invention.

Notably, the brake assembly and overhaul concept of CA-200491 can only be applied to a brake whose design permits the same disk to be used in the position and function of a pressure plate, a center and an end plate as described in the Amendment of August 5, 2002. In most aircraft brake designs, none of the pressure plate and end plate are able to be positioned or used in other than a single location in the brake disk stack; rather the pressure plate and end plate are specially configured to fit their respective complementary parts due to very different functions in the brake stack. The design of CA-200491 utilizes a torque tube that is very different in design at its reaction end (end plate end) compared to that of most conventional brakes and that shown in the present application. In most conventional aircraft brakes, the reaction end of the torque tube is flared outwardly relative to the main "barrel" shaped portion of the torque tube, and in most designs is integrally formed by machining a single forging due to withstand the severe stresses encountered during operation at minimal weight. CA-200491, however, teaches successively using a single disk as a pressure plate, "center" stator, and end plate, and how half of the other disks in the brake stack can be used two times, because each of them are initially provisioned on each wear face with material sufficient for two service runs in contact with the rub face of another disk.

CA-200491 does not teach or suggest that the disks or any of them be initially provisioned with material sufficient for three service runs as in the present invention. In addition, one of ordinary skill in the art would not have been motivated to do so. Once again, the Examiner is using pure hindsight and speculation to arrive at her conclusions. Such action is improper.

Therefore, Applicants submit that all pending claims are allowable in their present form, and hereby request allowance in a timely manner. If the Examiner has any questions or suggestions that would facilitate the disposition of this matter, she is respectfully requested to contact the Helen Odar at 312-321-4785.

Respectfully submitted,



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